

Shaving

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I've been shaving for many decades and thought I'd write down some experiences and things I've learned. Shaving is a pain in the butt, but it has to be done, for a variety of reasons.

While I certainly can't say I've tried every shaving product on the market (far from it, in fact), I do know what works for me. Since there's a wide variation in people and their skin and hair, I'm not for a moment going to think that what works for me will work for you. So, read about my experiences and if there's an idea or two in there you want to try, go for it.

I only shave my beard, so my opinions are naturally going to be biased toward men's shaving. While the basic process is probably the same (it's still a chunk of metal slicing off some body hair), I'm not going to pretend that I know anything about the women's side of it. Still, if you're a woman, read through, as there may be a tip or two that's useful to you.

Primary Choice

The major choice facing a person wanting to shave is: should you use a wet shave or an electric razor? (I'm ignoring depilatories.)

When I started shaving, I first used a Gillette safety razor and shaving cream. I found out that it wasn't that easy to use for me, both because of the occasional cut and the system never did work that well on my beard -- it pull and hurt, even with new blades. Thus, my grandfather gave me an old Norelco shaver of his that I used in high school and college. It worked OK, but it was slow. At some point, I switched back to wet shaving and have stayed with it for most of the time since then.

In the late 1980's, my wife bought me a few little Panasonic electric shavers that I really liked (she found them on clearance somewhere). They shaved better than any electric razor I had ever used and I fell in love with them. Alas, they would get dull in a year or so (leading to a less comfortable and slower shave) and, most importantly, the NiCd batteries would die. Since I can't replace these (and I would assume it would cost nearly what the razor did new to have them serviced), I finally just threw them away. I went back to wet shaving, which is what the remainder of the paper will focus on.

Principles

Marketing

Most people are forced to shave, so it essentially is a ready-made market. Sellers of shaving equipment and supplies have to compete for your dollar. Of course, they'll use every trick in the book to try to convince you to buy their products. After watching this behavior for many decades, my first principle is: **ignore the advertising**.

The profit/revenue pressures on the businesses cause them to continually think up new angles and gimmicks for shaving. There's probably very little that hasn't been tried so far. And I've never known a marketer to tell the truth when a fuzzy approximation to the truth can be used instead.

My point is that, contrary to what the advertising tries to tell you, the grass is not greener on the other side of the fence.

If you do need to explore different products, do it in an intelligent fashion. Before you do any product buying, decide on how you'll make the decision as to what's the best for you. Only you can

define the decision criteria and they're likely to be different from other people's. Then, canvas your friends and other people for their opinions about what works best. This gives you more information and it's experience-based. One person I like to use for advice is the local pharmacist. They may not be experts on shaving, but they're usually careful, objective folks and I value their opinions. They know a lot more than just how to count pills out of a bottle.

Obviously, if you know a barber who does a lot of shaving, he or she might be a good source of advice. However, I've always tried to avoid taking advice from people who have their hand out (i.e., try to get advice from folks who aren't trying to sell you something). Also be wary if they're dogmatic know-it-alls or overly enthusiastic about products they just happen to sell.

Soften the hair

In my opinion, this is **by far** the most important principle for a good shave. No product or gimmick will help get you a more comfortable shave than spending the time necessary to soften the hair. The best tool I've found for this is plain old hot water. Since I shower in the morning before shaving, I make a point to stick my face in the hot water as much as possible. If I have to shave without a shower, I soak a washcloth in water as hot as I can stand it and drape it across my face. I do this at least three or four times.

It's a short step to realize that perhaps the best time to shave is while you're in the shower. You can install a mirror with a shelf for razor and shaving cream and shave while you're taking your shower. I installed a flow control valve behind our shower head so that I could turn the flow down or off while I was shaving to save water. A little soapy water keeps the mirror fog-free and there are mirrors that utilize the shower's water temperature to maintain a fog-free mirror surface. Or, you may find that you can shave in the shower without a mirror, which is what I do since my wife had our shower area rebuilt.

Another thing you might want to try is to put some hair conditioner on your beard/hair before shaving (let it soak for a while). Since the conditioner seems to soften the hair, you might find it gives you a more comfortable shave. I use Pert shampoo in the shower and, since it contains a conditioner, I sometimes use it as a shaving cream while I'm in the shower. It doesn't hurt and it may help you. I didn't see enough of an effect to recommend using it.

Use a sharp razor

The same basic technology for shaving has (probably) been used throughout human history: drag a sharp object across the face to cut off the hair. I exclude other technologies like blowtorches and acids, as they come with other problems. ☺

Given that there simply is only one practical technology (a sharp cutting surface), it stands to reason that the cutting surface must be sharp to function effectively. Thus, an obvious conclusion is, regardless of the brand of razor (or type -- wet or electric) you use, make sure it's sharp.

Since I use disposable wet-shaving razors, I don't have the option of sharpening them. Thus, I switch razors when I'm getting an uncomfortable shave after I've properly prepared my beard with hot water.

You want to maintain the razor's sharp edge for as long as possible. A decade or two ago I ran a simple experiment. I hypothesized that corrosion was likely a big contributor to the blade going dull. I reasoned that if I could keep water away from the blade (except when shaving), I could cut down on the corrosion. Since I was shaving in the shower at the time, I kept track of how many shaves I got from one blade -- 36. When I switched to a new razor, I stored it in a 50-50 mixture of glycerin and isopropyl alcohol. Why? It sounded good to my judgment. I got over double the number of shaves from that second razor, so I didn't reject the hypothesis. I've confirmed those results a number of times since then, even going so far as to store the razor in some WD-40. But that was a poor decision -- it stinks in the bathroom. I also tried a mixture of mineral oil and alcohol, but that was, well, oily. I'm currently using some denatured ethyl alcohol that I found under

the sink and it seems to work well. Isopropyl alcohol is not the best choice because it is usually mixed with water. The basic idea of reducing corrosion, of course, is not new -- see page 835 in the May 1930 Popular Mechanics issue.

Another approach would be to dry the razor blade off when you're done with it and ensure it stays dry between shaves. A good way to do this is to use an alcohol that's miscible with water, such as ethyl alcohol. Rinse the razor off with the alcohol and let it dry. Acetone is used in the chemistry lab to dry glassware, but it will unfortunately stink up the house (besides, it might attack the plastic in the razor). Or, hit the razor with a blast of hot air from the hair dryer.

If you're interested in knowing, the razor I use is the Bic disposable with a single blade. I use the one for sensitive skin. I've tried the double, triple, etc. razors and I've never had a comfortable shave with any of them. The Bic works the best for me of all the razors I've tried and it's one of the cheapest to boot. Update 2011: I bought a bag of disposable razors from the dollar store (Schick Personna razors); they were 10 cents apiece. They work as well as the Bics; I haven't used them long enough to get an idea of how long each lasts. But since they are less than half the cost of the Bics, I'll probably switch.

I read somewhere recently that there's a boon in the older style of replaceable blade razors like the Gillette cartridge razor I started shaving with as a kid. Some people make the comment that the cartridge blades are better than the blades in the disposable razors. I can't tell; if I had the resources (i.e., money and time), I'd study the problem with some rather sophisticated surface science tools, SEMs, etc. and come up with a reasoned opinion. Since I can't do that, I resort to common sense -- I'll use the cheapest thing that works well for me. I still have the Gillette razor I bought 50 years ago with some cartridge razor blades and occasionally get it out and try it. It invariably confirms to me that either I'm using the thing improperly or it really doesn't do a very good job for me. The cheap Bic or Personna razors for me work qualitatively an order of magnitude better. All I can encourage you to do is to try each of them, try to be objective in your comparisons, and use what works best for you.

Disposable razor details

I took one of the Personna razors apart -- this is relatively easy to do by using some flush-cut pliers to cut the melted plastic bosses and pry the top off with a small screwdriver.

This Personna razor had a mass of 4.6 g. The mass of the blade was 0.15 g. It is 0.096 mm thick, 37.5 mm long, and 7 mm wide. There are two 4 mm holes in it and two 2.2 mm holes in it. The blade is sharpened on both sides and the width of the bevel viewing from the top is 0.36 mm (measured with a 20X Dumaier Micro-mike). I can see two, maybe three bevels on the blade. Yes, I could see three bevels with my 50X Micro-mike. The lay of the grinding/polishing marks is at right angles to the edge.

Metal: assume the stainless steel cost is \$10 per pound. Then the material cost of the blade is 0.33 cents. Including fabrication and heat treating, call it 1 cent.

Plastic: assume the raw material is \$1 per pound. The cost of 4.6 g is 1 cent. There's a small plastic cap that comes with the razor; I'll assume its cost can be absorbed into the razor's plastic cost.

Thus, excluding the overhead and tooling costs, you can see that a single razor probably costs just a few cents to manufacture. I would hope that would really make you wonder about what you're getting for one of those Gillette cartridges with 5 blades that cost \$3 or \$4 each! There better be a flash thumb drive in it for that much.

In January of 2011, you can buy 360 of these Personna razors on Amazon for 24 cents apiece, including shipping. That's probably around 10 times the manufacturing cost. Note you can buy 36 bags of 10 (the same as what Amazon was selling) for \$36 at Dollar Tree (I bought my \$1 package of razors at Dollar Tree).

It shouldn't be too hard to figure out that even the fancier razors are made for a song compared to what they are sold for (i.e, most of the cost is in the marketing these companies have to do and the profits for the manufacturer and middlemen). Because it's essentially a guaranteed market, you can see why there are so many models on the market.

There are no magic chemicals

Over the decades, I've tried probably 20-30 different shaving creams, gels, etc. The simple truth is they're all about the same -- absolutely nothing stands out. Use the best stuff there is and you're going to get an uncomfortable shave if you didn't soften your beard. Plain old Ivory soap on a wet face works just fine. Some of the gels put in very slippery chemicals that seem to help the razor glide a bit better, but they make no difference in the comfort of the shave.

I've read that some Mediterranean men use olive oil for their shaves. I tried it and it worked OK. Just to continue to be anal retentive, I even tried mineral oil and it also worked -- but was oily, messy, and hard to rinse out of the razor. I personally wouldn't recommend using an oil for shaving.

Around 30 years ago I tried a badger brush and an expensive soap. It made no difference. Same for the high-priced (read: heavily-advertised) shaving creams. In fact, if you think about it, it doesn't make sense to use a shaving cream -- 99% of the stuff in the cream is standing away from your face, doing neither you nor your razor any good. However, there are at least some benefits: a) it helps hold moisture against your skin, b) it provides some lubrication to help the razor glide more easily against your skin and c) it does rinse off with water (oil doesn't without adding soap). If it's thick enough, it also avoids having water/soap drip on things. But if the shaving cream comes out of the can without foaming much and you keep you razor wet, you're going to get drips on the counter; that's annoying.

After all the years, my conclusion is to buy the cheapest shaving cream you can find -- it'll work as well as the most expensive stuff. My wife gets me a shaving cream that costs \$1 per can. And it lasts a long time -- I've never kept track, but since I don't shave every day anymore, I suspect a can lasts me between 1 and 2 years. I've found I only need a small amount of shaving cream -- you don't need to put an inch-thick layer on your skin like shown in advertisements (in the same spirit that toothpaste companies put a gigantic amount on a toothbrush in their ad pictures to make you think you need the same amount).

2011 update: For the last year or so I've been shaving in the shower without a mirror. I've settled on just using some Ivory soap lather on my face for my shaving "cream". It works as well as anything else I've tried and, since it's already there in the shower, it's probably what I'll stick with from now on.

When I was young, I didn't mind putting on an aftershave, mainly because they smelled nice and, of course, the advertising implied it was certain to attract the opposite sex. Yeah, right. Somewhere over the years that stopped and now I put nothing on my face after shaving. If you find something that works well as an aftershave, use it. I can't recommend anything.

Cuts

Regardless of the razor you use, you'll eventually cut yourself. The time-tested way to help stop the bleeding is to dab a styptic pencil on the cut. It will help stop the bleeding, but boy, does it sting. I find I cut myself once or so per year while shaving and it's almost always with a new razor. I get the most comfortable shave from a razor after it has been used a few times. I've had the same styptic pencil for at least 30 years, so you don't use them up very fast.

If no styptic pencil is handy, the only alternatives are to stick a Band-Aid on the cut or stick on a piece of toilet paper and hope you remember to remove it before heading to work.

Testing

Most of us don't spend the effort it takes to do objective testing -- partly because it's hard to do with some of these things. To be objective, you ideally would use a product without knowing what brand or type it was and evaluate it solely on its results. That's hard to do when you e.g. hold the razor or apply the shaving cream.

One could conceive of doing some testing where your wife applied one shaving cream to half of your face and another to the other side. You wouldn't know which was being applied after she gleefully jammed some rubber plugs up your nose to keep you from smelling the fragrance. Then you'd close your eyes, shave¹, and evaluate the shave on each half of the face for the criteria you deem important.

But, really, who's going to go to such trouble? Probably only a manufacturer of the shaving products.

My point here is that we'll all make biased decisions. I know I do -- I've grown to feel that little money and effort should be thrown at shaving equipment and supplies. I spent no effort to properly research and sample all the different products out there. Thus, my conclusions are definitely biased and I know them to be so. However, I'm happy with the results I get, so I have no impetus to make any changes.

Economics

Here's what I spend on shaving materials. Since I am not working and thus don't need to shave every day, my shaving interval is between 2 to 3 days -- and is closer two 2 days.

Razors: I marked a bag of 12 Bic razors with the date I started using the first razor. I withdrew the 9th razor from this bag exactly 1 week short of a year later. Thus, my razor use over the last year was 8 razors per year. Since these razors are less than 25 cents apiece, I spend about \$2 per year on razors. Update 2011: I'm now using the Personna razors from the dollar store at 10 cents apiece.

Shaving cream: I haven't kept track of how long a can of shaving cream lasts. At the minimum, it is 6 months, but more likely between 6 months and a year. My wife buys the \$1 per can shaving cream; the last one had a net weight of 418 g. Update 2011: now I'm just using the Ivory soap in the shower.

Thus, I spend less than \$5 per year on shaving materials.

It does make me cough a bit when I see the high-priced Gillette or Schick razor blades for \$3 or \$4 **apiece** at the local store. Then I remember the old joke of "We'll give you the razor if you buy the razor blades from us." and the higher-tech one: "We'll give you the printer if you buy the inkjet cartridges from us." Guess where the money is?

You can spend a lot more on fancier stuff and, if it works for you, great.

¹ Most of us probably have the habit of needing to look into a mirror to shave. However, try it without the mirror (say, in the shower) and you'll find that you can shave just fine, at least if you've been doing it for a decade or more.